Redondo Beach Generating Station

Appendix A

Physical Oceanographic Data

A1. Source Water Currents

A2. Source Water Temperatures from ADCP Instruments

Appendix A1
Source Water Currents

Physical oceanographic data were collected from the source water body to describe current regimes that can affect larval transport in the vicinity of the RBGS. A Nortek Aquadopp® acoustic Doppler current profiler (ADCP) was positioned approximately 1.0 km (0.6 mi) from shore at a depth of −16.15 m (−52.99 ft) MLLW (CM5, Figures A1-1 to A1-4). The latitudes and longitudes of the station was 33.852542ºN, -118.410757ºW. The CM 5 station was commissioned on January 10, 2006 and was decommissioned on January 19, 2007. Data was downloaded on February 3, 2006, May 3, 2006, and September 1, 2006. CM 5 had an operating frequency of 1 MHz and collected data at hourly intervals in a usable range that extended from 0.4 m (blanking range, 1.3 ft) from the ADCP to somewhat less than 90% of the distance to the surface. The half-power full beam-width was 2.4 degrees. Other measurement specifications are listed in Table A1-1. Water temperature and water depth (pressure) were also measured monthy (Table A2-1, Figures A2-1 to A2-8). Water temperatures were calibrated over an approximately four-month period from September 2006 to January 2007 using a calibrated Starr-Oddi thermistor. Pressure measurements were adjusted using barometric pressure data measured at the Los Angeles International Airport and corrected for sea level.

Table A1-1. ADCP deployment parameters for current meter in the vicinity of RBGS (Stations CM 5).

Unit	Oper. Freq.	Deploy depth (m)	Cells (#)	Cell size (m)	Max. range (m)	Cell precision (cm/s)	Ping rate	Averaging Interval (s)	Repetition rate (hr)
CM 5	1 MHZ	16.15	17	1.0	17.4	0.8	87%	180	1.0

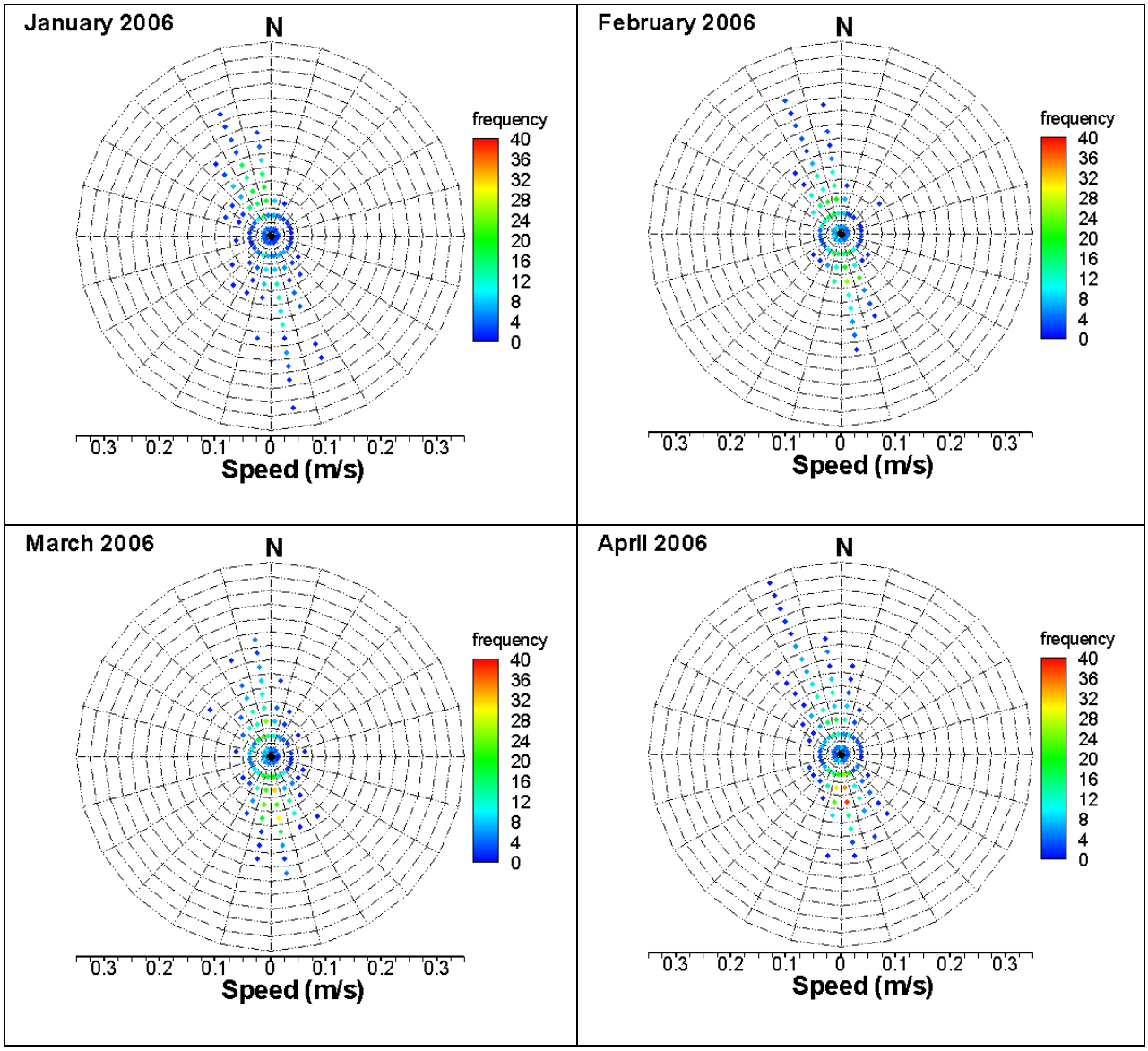

Figure A1-1. Hourly estimates of water column speed and direction at location CM 5, January – April 2006. Frequency is number of hourly observations.

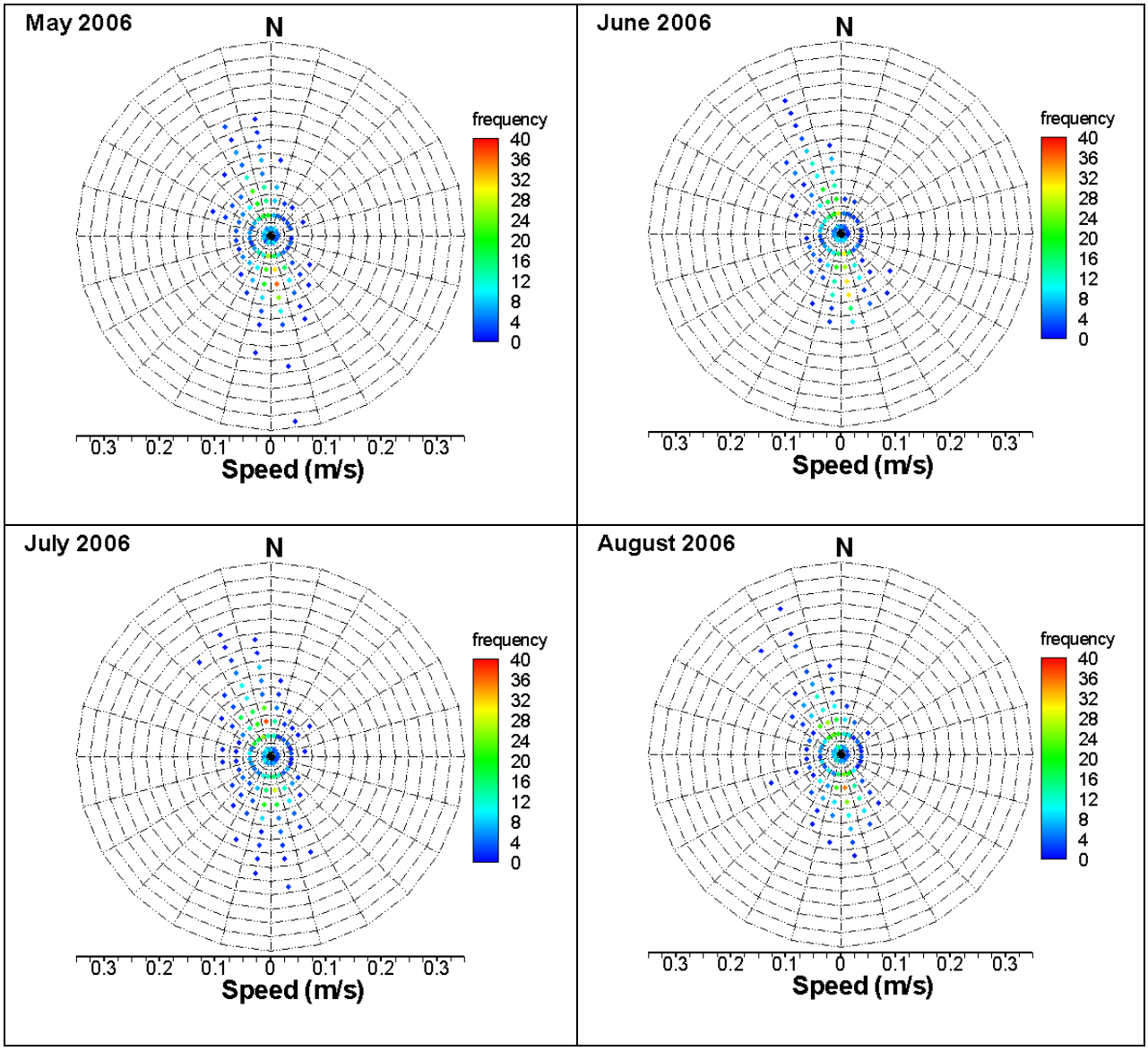

Figure A1-2. Hourly estimates of water column speed and direction at location CM 5, May – August 2006. Frequency is number of hourly observations.

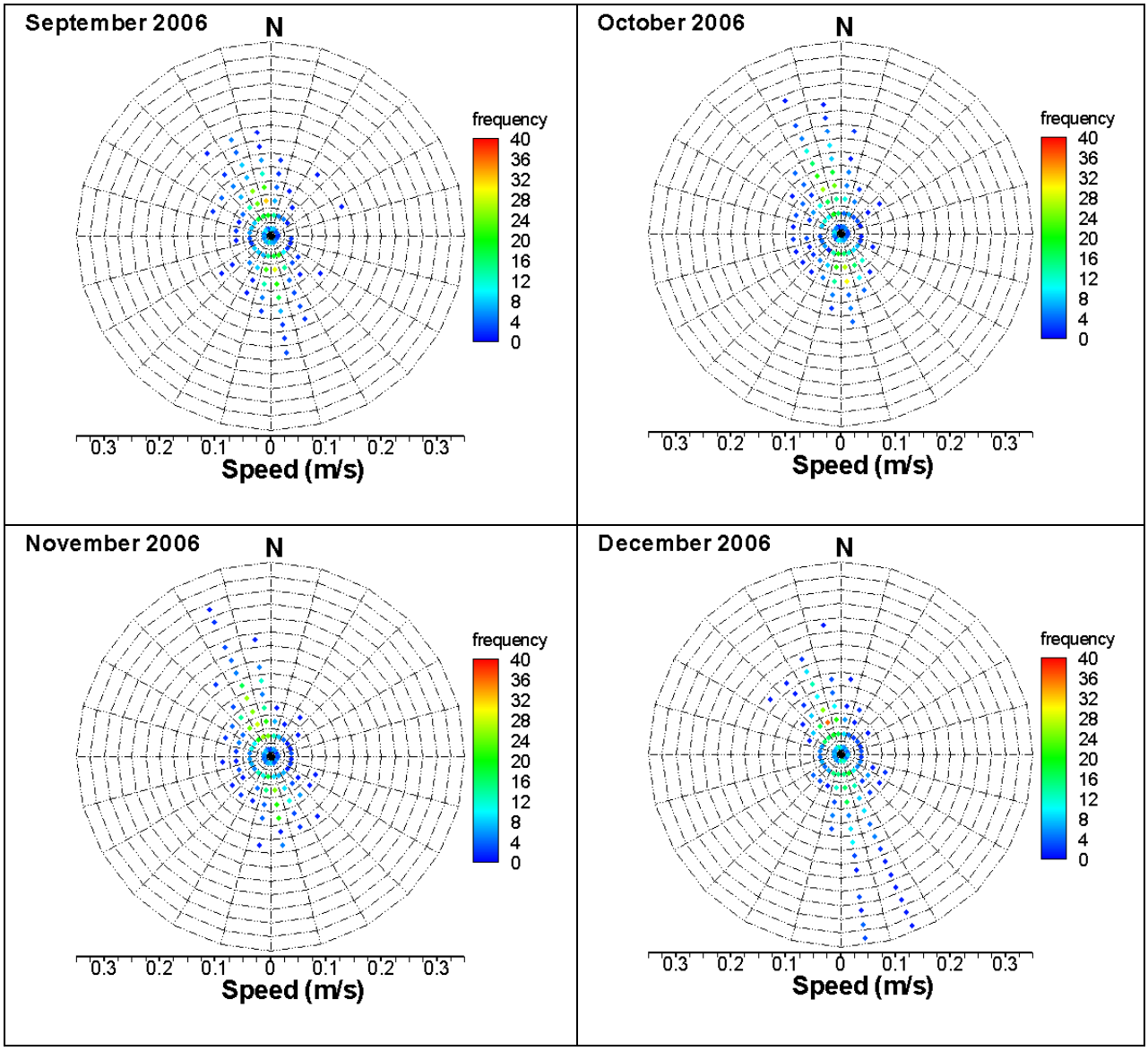

Figure A1-3. Hourly estimates of water column speed and direction at location CM 5, September – December 2006. Frequency is number of hourly observations.

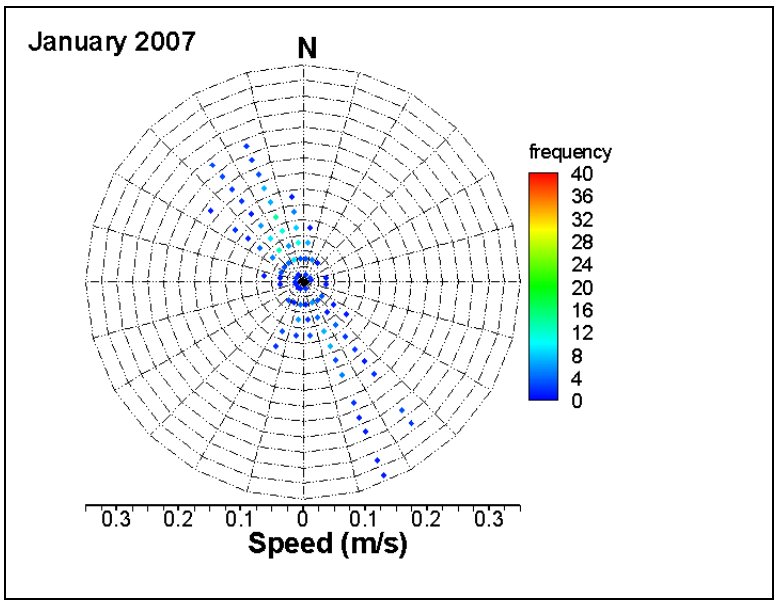

Figure A1-4. Hourly estimates of water column speed and direction at location CM 5, January 2007. Frequency is number of hourly observations.

Appendix A2
Source Water Temperatures from ADCP Instruments

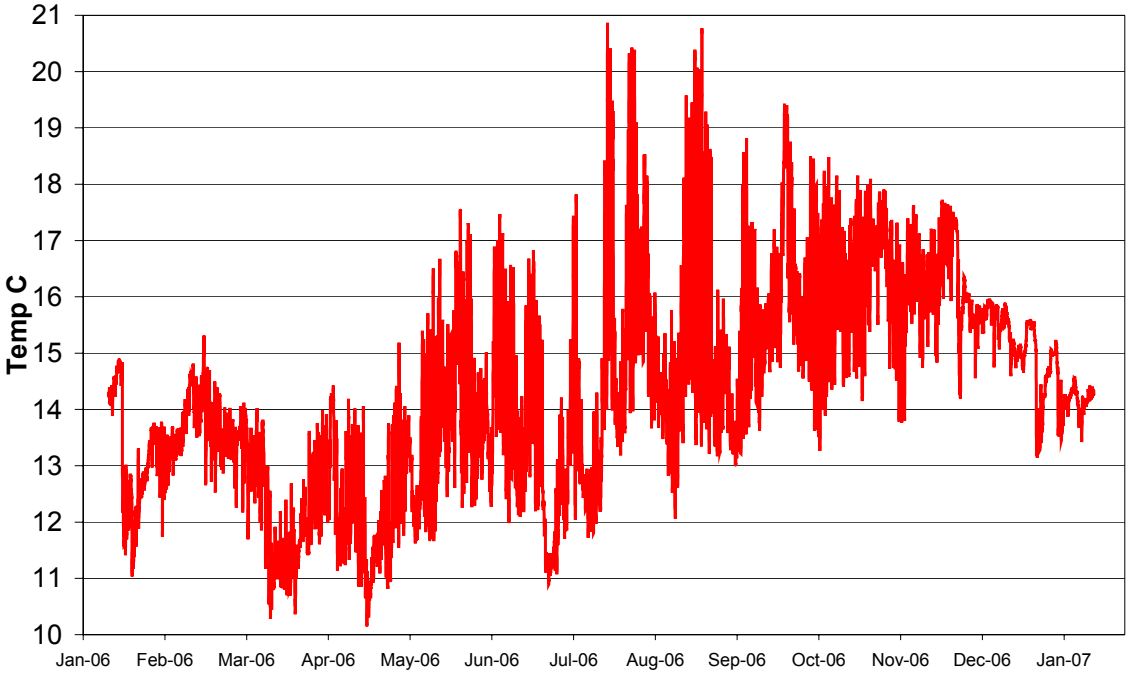

Figure A2-1. Yearly temperature from January 2006 to January 2007 at CM5.

Table A2-1. Monthly and yearly mean temperatures recorded from January 2006 through January 2007 at CM5.

Month	Mean	Standard Dev	Max	Min
January	13.14	0.97	14.88	11.06
February	13.70	0.51	15.29	12.28
March	12.18	0.96	14.12	10.29
April	12.21	0.98	15.18	10.17
May	13.66	1.28	17.53	11.65
June	13.50	1.44	17.47	10.89
July	14.46	2.05	20.84	11.73
August	15.02	1.60	20.70	12.09
September	15.45	1.40	19.40	13.02
October	16.11	1.08	18.49	13.29
November	16.26	0.83	17.88	13.77
December	15.31	0.63	16.36	13.14
January 07	14.31	0.39	15.21	13.42
Total Year	**14.28**	**1.78**	**20.84**	**10.17**

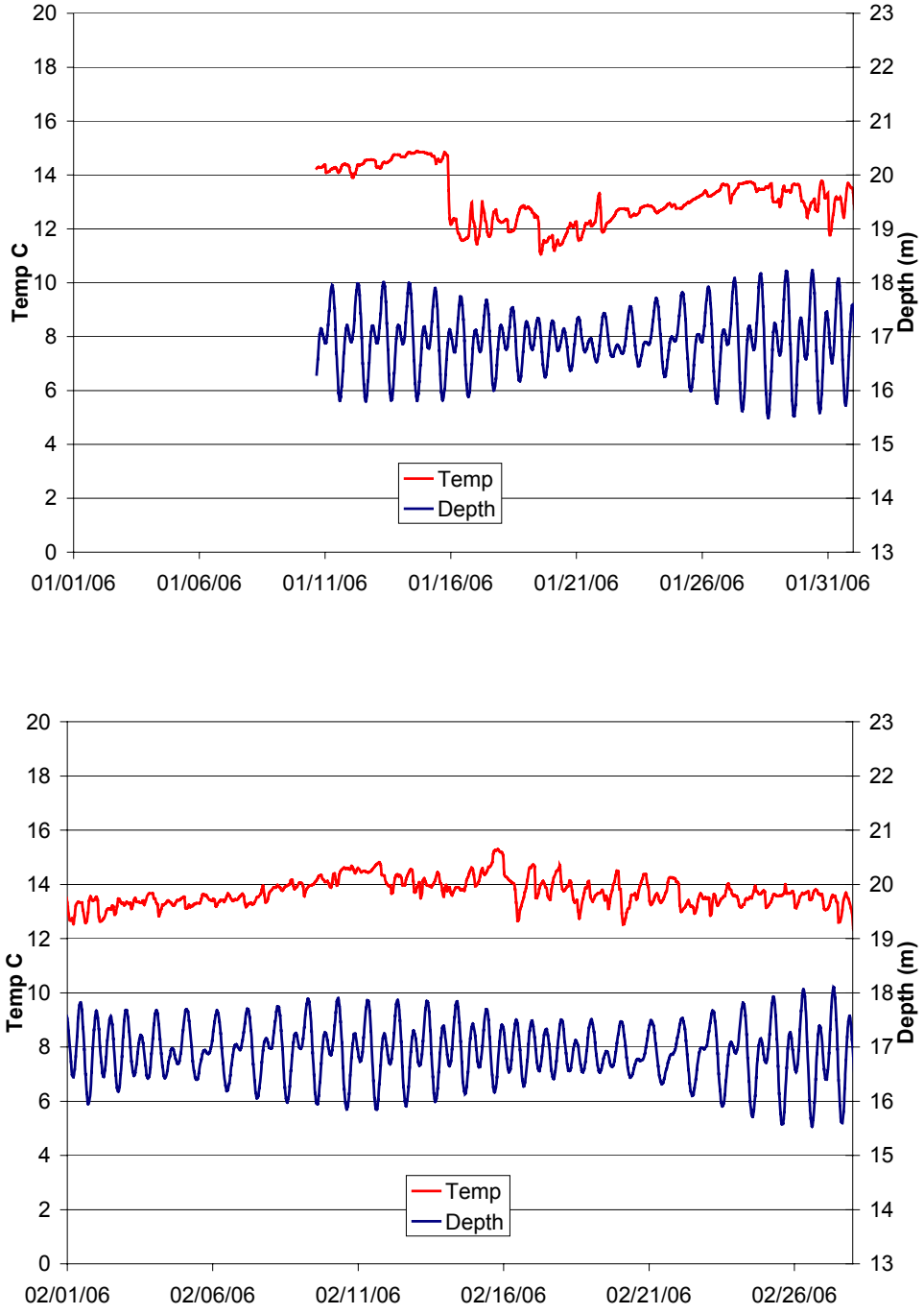

Figure A2-2. Near-bottom temperature and tidal depth from January (top) to February (bottom), 2006 at CM 5.

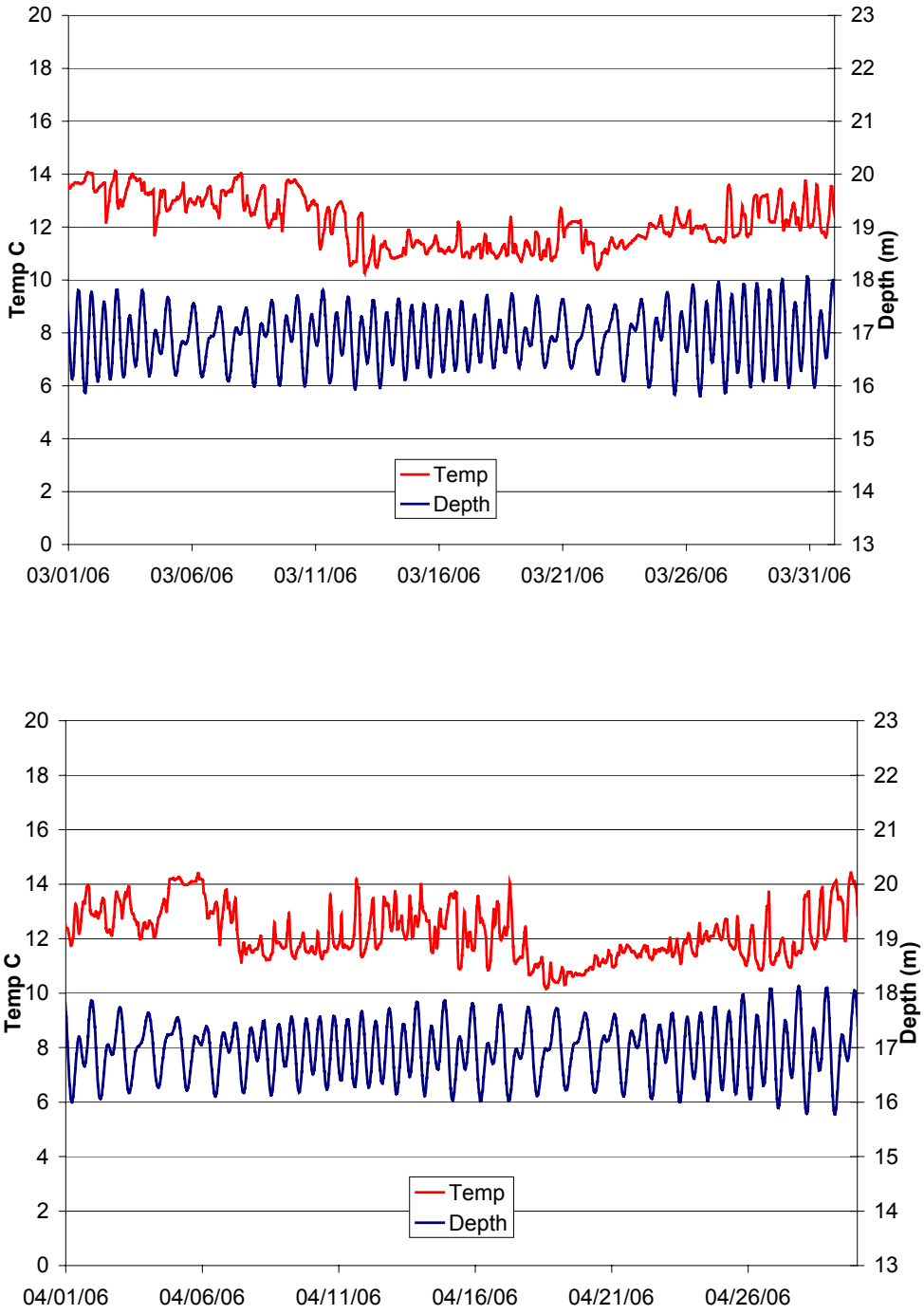

Figure A2-3. Near-bottom temperature and tidal depth from March (top) to April (bottom), 2006 at CM 5.

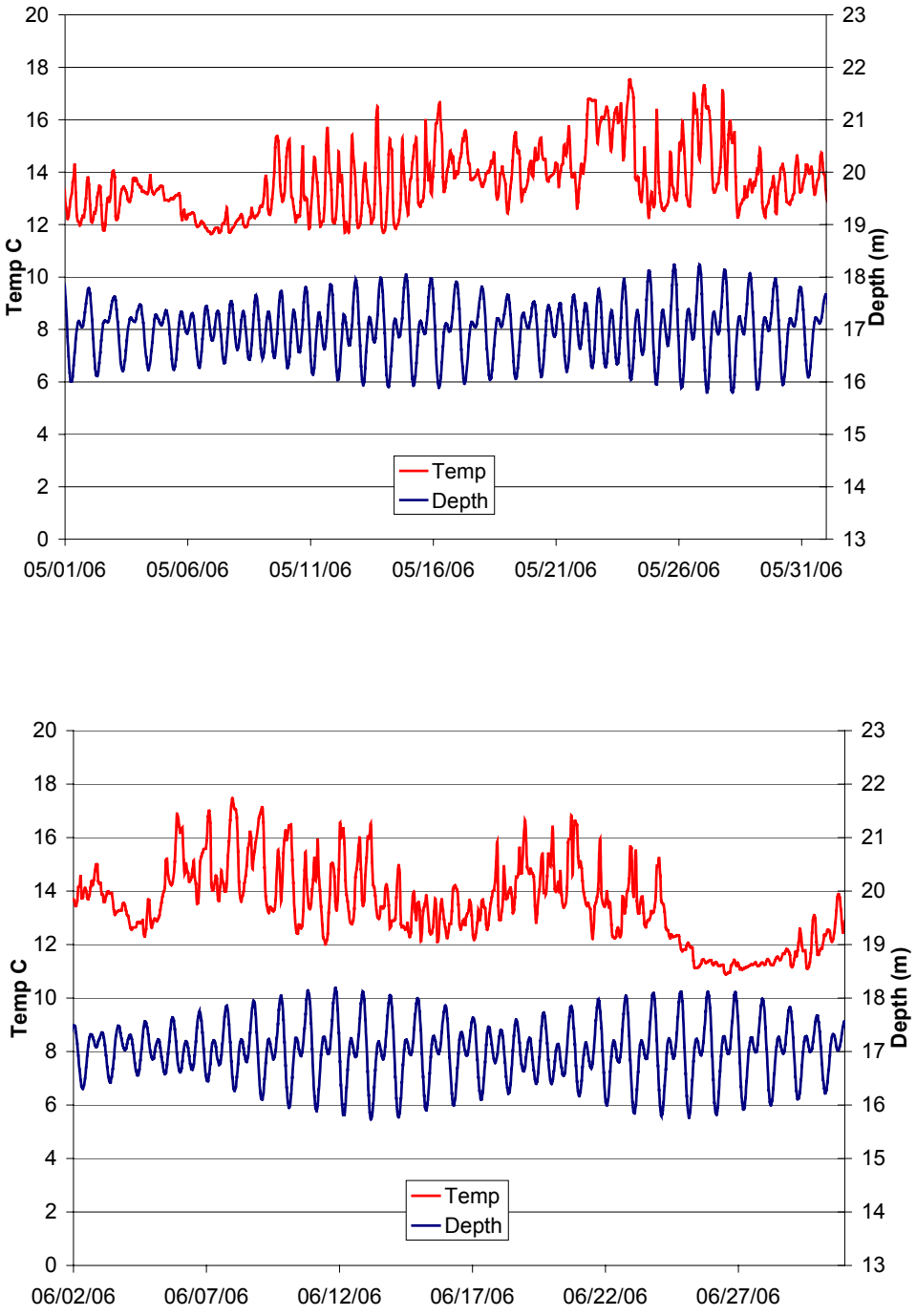

Figure A2-4. Near-bottom temperature and tidal depth from May (top) to June (bottom), 2006 at CM 5.

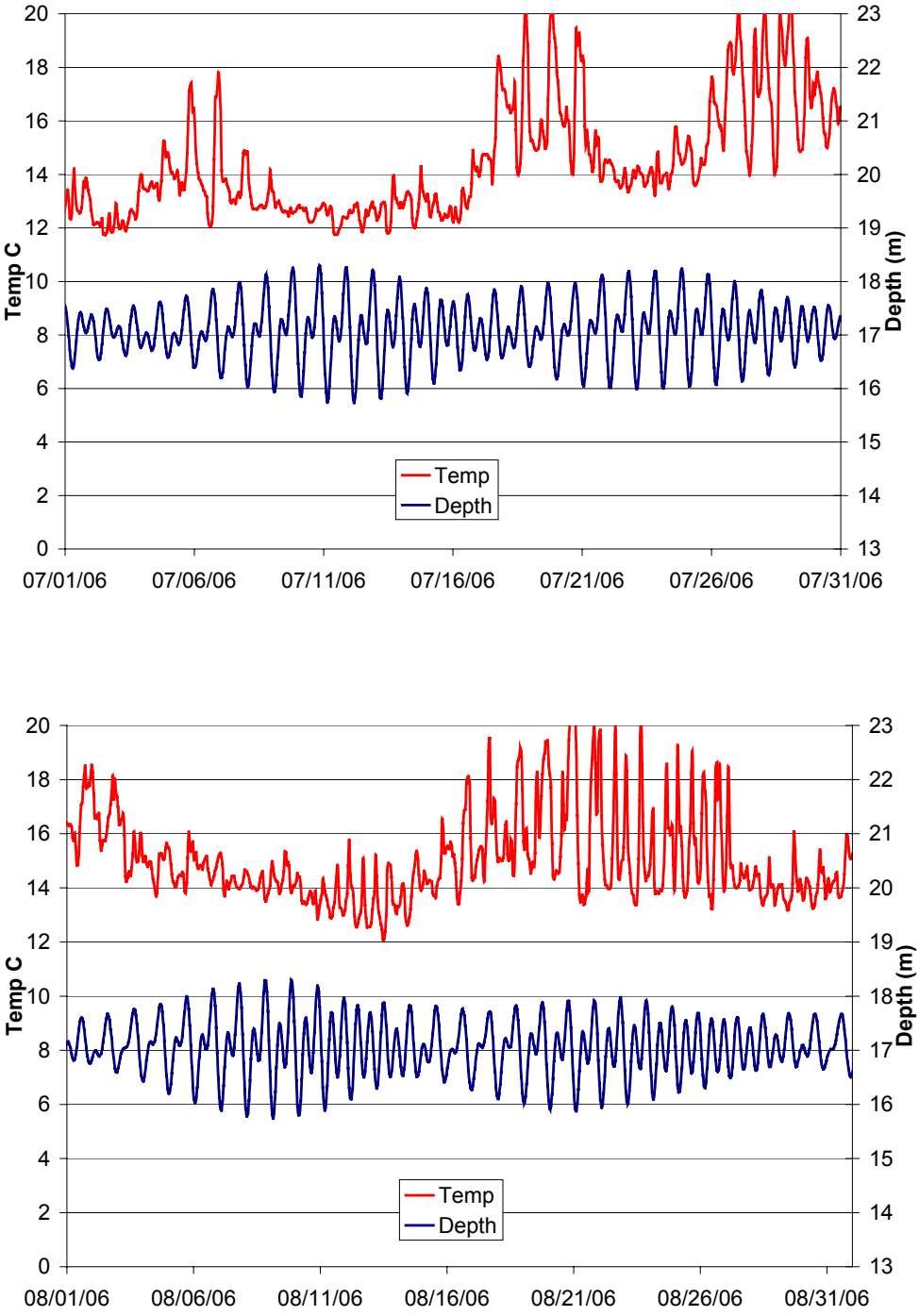

Figure A2-5. Near-bottom temperature and tidal depth from July (top) to August (bottom), 2006 at CM 5.

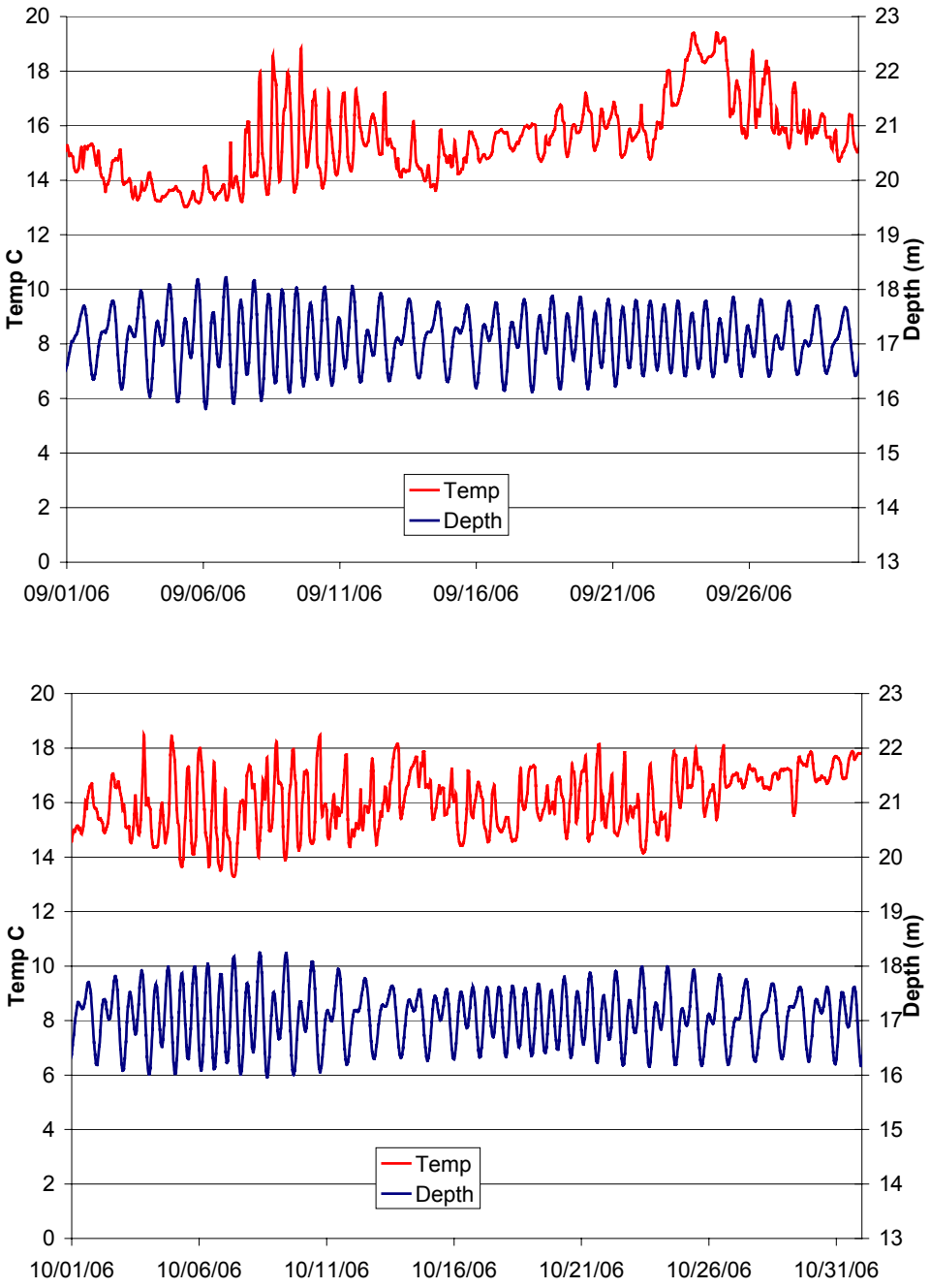

Figure A2-6. Near-bottom temperature and tidal depth from September (top) to October (bottom), 2006 at CM 5.

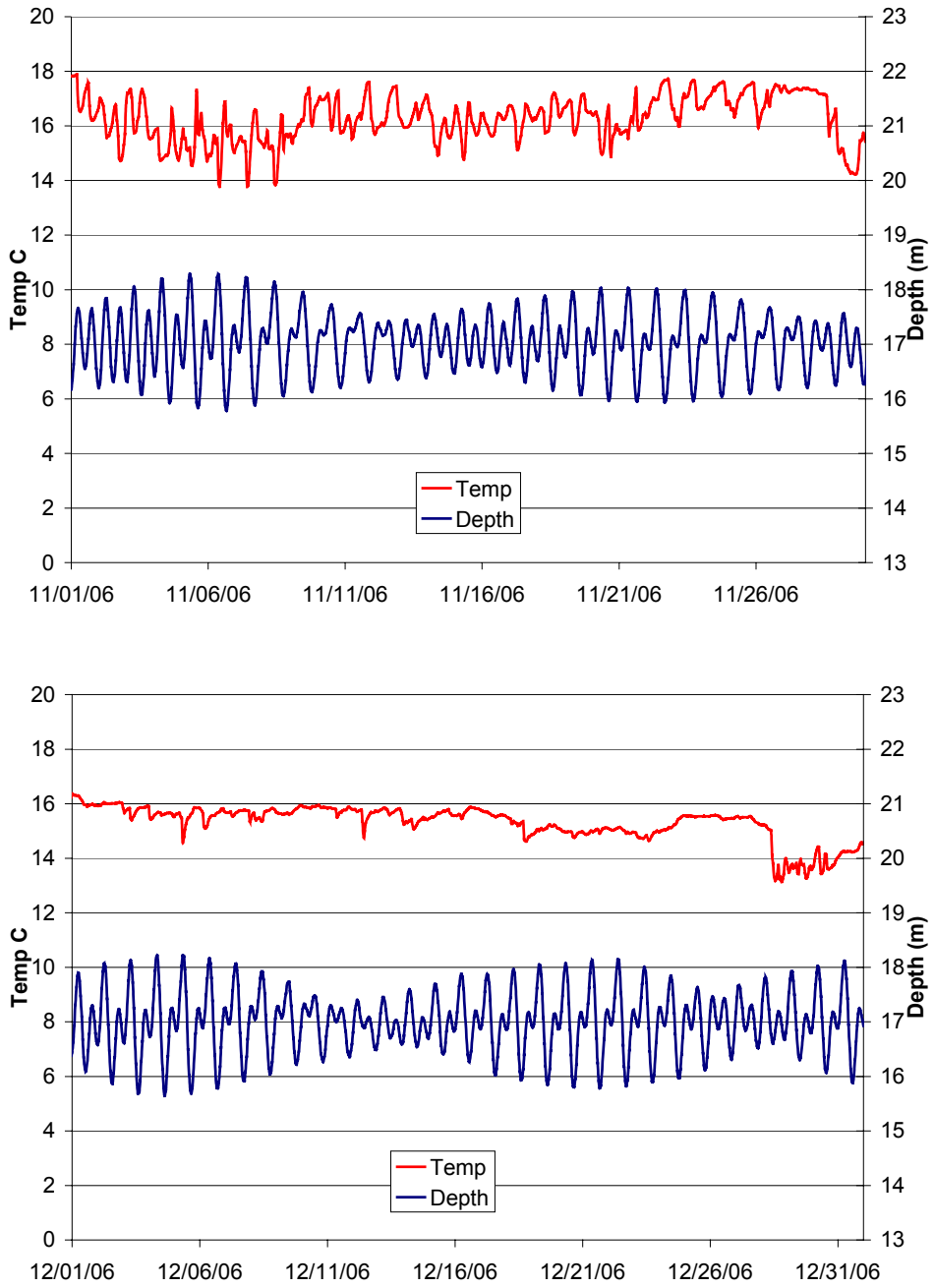

Figure A2-7. Near-bottom temperature and tidal depth from November (top) to December (bottom), 2006 at CM 5.

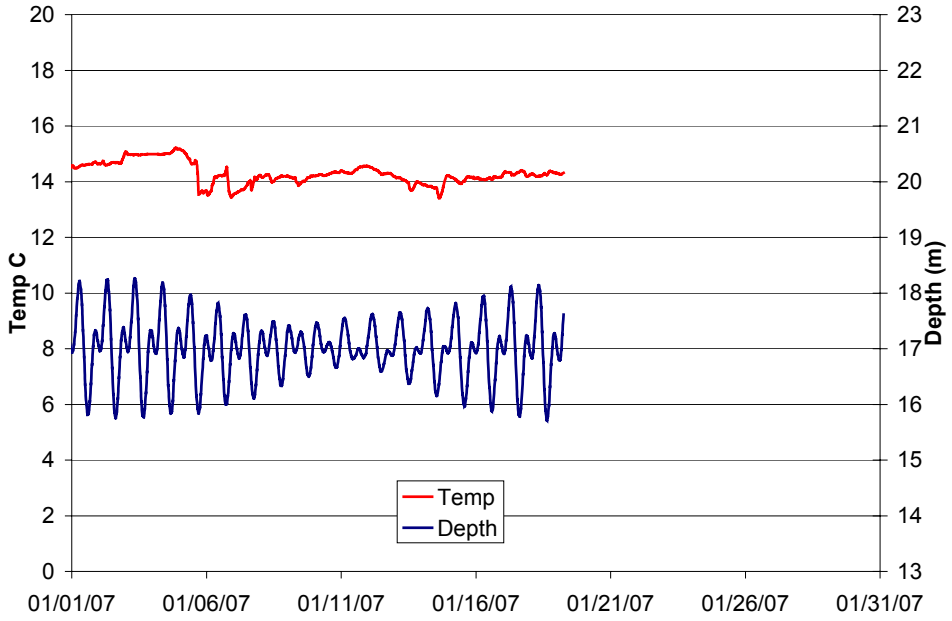

Figure A2-8. Near-bottom temperature and tidal depth from January 2007 at CM 5.